

# AMATEUR MOVIES

APRIL 1934

PRICE 25c

this issue

Nature Photography

Outdoor Lighting

Backyard Movies

Gadgets and Tricks

... and other features

# Announcing



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**I**n 16 mm. Fine-Grain Plenachrome, Agfa presents a new film of highest orthochromatic speed and utmost quality. Not only speed and sensitivity but exceptional brilliance, latitude, fine grain and anti-halation advantages are combined in this popularly priced film.

16 mm. Plenachrome is especially recommended for general outdoor use. Its speed in daylight is approximately the same as that of regular 16 mm. Panchromatic film; its sensitivity takes in all colors except spectral red; its latitude means fewer exposure errors; and its special anti-halo coating protects the finest details. Plenachrome's slightly tinted base enhances the warm tones produced by its finely balanced emulsion.

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Photo by H. W. Allen

# AMATEUR MOVIE SECTION

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\* **PROFESSIONAL** Criticism of the Amateur picture is a part of the service offered by the **AMERICAN CINEMATOGRAPHER**. Many are not aware of this. Hundreds of pictures have been reviewed this past year by members of the American Society of Cinematographers for the Amateur.

## Next Month . . .

- A Professional Looks At 8mm. Arthur Miller, A.S.C., who has taken the 8mm under his wing, will tell you the things that can be done with this little camera.
- Backyard Movies will continue to be given to you. The type of stories anyone can shoot in their backyards, right in their own neighborhood.
- Some common sense technical articles will be offered, things within the range of the 16mm and 8mm camera.





# Color and the Miniature Camera

By

Clarence Slifer, A.S.C.

WITH their customary progressiveness and enthusiasm, those interested in the miniature camera have turned to color photography as the new field to conquer, with this most versatile photographic instrument. Strangely enough, miniature negatives were used in color photography before miniature cameras became popular. In 1923, a very ingenious color camera was placed upon the market. This camera was known as the Raylo camera. It made color pictures by the three-color separation principle. Each negative in the separation measured 1 by  $1\frac{1}{2}$  inches, or identically the size of the present Leica and Contax negatives. From these miniature color separation negatives, enlarged color prints were successfully made in any desired quantities.

As there are a number of color processes that may be used with the miniature camera, it is the purpose of this article to acquaint you with some of the most prominent and successful ones. Perhaps the oldest, successful color

process is the *Autochrome* process. This is strictly a transparency process, the resulting pictures being viewed either by transmitted light or by projection. Recently the *Autochrome* emulsion has been coated upon a film base and is now known as *Filmcolor*. It is also supplied on 35mm perforated film, this film being suitable for use in the Leica and Contax cameras.

The principle by which this film makes pictures in natural colors is very interesting. The only special equipment required to use this color film is a special lens filter. This compensates for the difference between the visual value of certain light rays and their actinic effect upon the sensitive film coating. Although *Filmcolor* is a single film, it is made up of two distinct coatings, the color screen and the emulsion. The color screen is made of microscopic, dyed starch grains. This screen in reality is a mosaic of myriads of tiny filters—red, green, and blue and in perfect balance. There are approximately 6,000,000 of these filters to a Leica frame. This trichromatic mixture of starch grains is spread upon a celluloid film base. Over this color grain coating is applied a protecting varnish. Then upon this, is coated a thin, highly sensitive panchromatic emulsion.

This color film is loaded in the camera with the celluloid side towards the lens (the reversal of normal black and white procedure). This permits the mosaic color screen to act as a filter for the panchromatic film. It will be seen, that these minute filters will pass some color rays wholly, or partially, or stop completely depending upon the color of the light ray and upon the color of the grain or grains that it falls upon. In this transmitted ratio may affect the panchromatic emulsion. This negative emulsion during the course of developing and processing, is reversed, thereby becoming a positive. Now, when this positive is viewed by transmitted light, it permits the light to pass through the color screen in the exact and original ratio, thus giving a picture in natural colors.

With fast lenses (f 2.3, f 2, etc.) snapshots are possible in bright sunlight. Duplicate transparencies may also be made. It is presumed that with the Leica transparent

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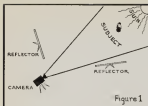


Figure 1

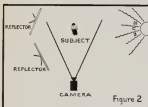


Figure 2

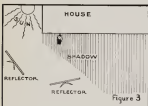


Figure 3

photographer is to set his lens and turn his crank, the lighting takes care of itself. Nothing could be more wrong than this conception of lighting! If light obeys certain laws indoors and the photographer, by applying those laws, can make his pictures better, why should he not similarly improve his pictures by applying the same laws of lighting to exterior photography?

True, there is but one basic source of light outdoors—the sun. But—as every small boy learns by playing with mirrors and tin-foil—sunlight can be reflected. It can be thrown into shadows, moved about from one angle to another with exactly the same assurance—and the same effects—that we get indoors by using several sources of light. And if good lighting will improve interiors, it will surely do the same for exteriors.

When we first started this discussion of lighting, several months ago, we found that the average amateur in his interior scenes too flatly—simply set up a light or two in front of the subject, to give an even illumination from the front, and fired away. Well, the same thing happens when he makes an exterior, most of us began our photographic experience with little "Brownie" cameras—and we still remember that the "Brownie" instruction-book called for a flat front-light, with the sun behind the camera. We've carried the same idea over into our movie-making. But the home-movie camera—16mm, 8mm, or 9.5mm—is blessed with faster lenses, and uses faster film than did our boyhood "Brownies." Therefore, we can forget the old rule about keeping the sun behind us, and branch out into lightings that really give us good pictures.

Some of the advanced amateurs have already reached step No. 1 in outdoor lighting. They have moved the sun around from behind the camera to one side or the other, giving a more pleasing lighting, professionally known as "cross-lighting." That is all to the good—but they haven't put anything into the picture to offset the harsh shadows thrown by this type of lighting. We find that the sunlit side of the face is strongly lit, and the opposite side is strongly shadowed. But if we can reflect some light into those shadows, leaving that side shaded, but still with enough light reaching it to give a nice luminous shadow, we have a really pleasing, natural light-effect.

How are these reflectors to be made? Really, it's simple. Almost anything that will throw back some of the light that falls on it will do—in a pinch. I've known of professional cameramen who, in an emergency, used ordinary bedsheets for reflectors! But the best reflector for amateur use is one made of a piece of ordinary composition board, with one side coated with either gold or silver foil. For a long time, silver-coated reflectors were used exclusively, but since the introduction of Panchromatic film, gold has become more popular. Therefore, I would advise the use of gold-surfaced reflectors. If you wish, you can protect the reflector with a wooden moulding along the edges, and a hinged wooden leg, by which the reflector may be braced, to stand at any desired angle, is extremely useful. And of course, if you are a particularly good carpenter, you can make your reflectors book-shaped, so that they will fold when not in use, protecting the reflecting surface. Folding reflectors, by the way, can be made smaller, and so, handier to carry.

Now for using them! Sketch No. 1 illustrates back-lighting. The subject stands with his (or her!) back to the sun—notice how nicely the sunlight, coming from this angle, will outline the contours of the body and the hair. Now, place a couple of reflectors on either side of the camera, to reflect the light on the face of the subject.

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# The A-B-C of Outdoor Lighting

By  
**Arthur Campbell**  
Cinematographer

**L**IGHTING, to many people, simply means the use of artificial illumination for making pictures indoors. When you set up your camera outside, they reason, the sun does the lighting for you—all that is left for the

# Show It With Music

By

William Stull, A.S.C.



**B**EFORE the movies learned how to talk, one of the greatest aids to the de luxe presentation of professional motion pictures was the musical accompaniment. Until the advent of the Vitaphone, all of the great film theatres maintained large, symphonic orchestras, expert organists, and highly skilled arrangers and thematic-score writers—all for the purpose of being able to give each scene of each picture the best and most fitting musical background. For the right music, rightly played and rightly used, can be of tremendous value to any film: it will create a sympathetic emotional response in an audience, heighten the value of any scene—and sometimes improve the response to a film that might otherwise be coldly received.

The same method is well worth adapting to the requirements of amateur showings. Of course, actual orchestras and organs are out of the question, and most of us are but poor performers on any instrument—but there is always the faithful phonograph, which brings us the finest of music, to use when and how we will. Moreover, it can bring the makers of travel films the national music of any land—the real music of the South Seas, the weird cadences of a Balinese "Gamelan" orchestra, the dissonances of genuine Chinese, Egyptian, or Arabian music, which, rightly used, can add immeasurably to the atmosphere of any travel reel.

The mechanical adaptation of the gramophone to the purpose of accompanying home movies was discussed last month; it will be remembered that while the ordinary, electric-reproducing phonograph will serve acceptably, the best results would follow the use of a non-synchronous, theatre-type machine with two turntables, a fader, and—if possible—indicating needles attached to the pickup arms, so that one may accurately choose any definite part of a record, starting and stopping at exactly the desired place.

Regardless of the physical equipment used, the most important thing, obviously, is to have the right records—the most fitting music, perfectly played and recorded. Fortunately, each scene or sequence in a picture will fall under some arbitrary classification as to mood and action, so, having music suited to these various moods, one can rest assured of having music suited to almost any requirement. Working from this basis, a large collection is by no means necessary—a skeleton collection of fifteen or sixteen records is enough for a start—and, as time goes on, the library may be increased, giving greater variety in theme-arranging, and building up a collection of recorded music which will be, quite apart from its cinematic utility, a source of lasting pleasure.

From the outset, several courses are possible. First of all, one may decide to concentrate on either orchestral or organ accompaniments; this is, of course, purely a matter of taste. It would, however, be wiser to concentrate on one

or the other exclusively, until one was ready to more or less duplicate the collection, eventually having similar music by both orchestra and organ for every mood or situation. A certain number of band recordings will often prove useful, as will some types of instrumental solos, such as violin, cello, and string bass. Vocal selections should obviously be avoided. The backbone of any scoring library should be the orchestra and the organ.

For such purposes as this, foreign-made recordings are often more suitable than the domestic product. In the first place, the majority of domestic record firms have lately been concentrating on dance-music, which is seldom suitable to film accompaniments. Foreign orchestras and producers, on the other hand, have continued to record not alone the more familiar classic and semi-classic concert music, but have released many delightful recordings of selections virtually unknown here—and therefore often more suitable than the more hackneyed pieces commonly heard. England and Germany are the best sources of such records. For organ records, one must indisputably go to England, for not only do the British firms have a greater variety of organ selections, but their records are recorded by a far greater variety of artists. For strictly national music—such as Chinese, Egyptian, Japanese, etc., not to mention the more familiar Scandinavian folk-music, and the like—the foreign catalogues offer the traveller tremendous resources. Two American firms—RCA-Victor and Columbia—have extensive foreign branches, and can supply either direct or through their importation service, a vast amount of interesting music of this type.

It may also be mentioned that European records are, as a rule, recorded to a somewhat lower volume-level than is common here, and with less tonal distortion than our American records, which are inclined to artificially accentuate the bass register; there is otherwise very little choice between the two as to quality. Several firms in this country carry extensive stocks of foreign records, and import anything on special order, handling all matters of shipping, customs, etc. Such importation requires about three or four months, as a rule, and imported records cost approximately one-third

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Title  
Stand  
For  
8mm or  
16mm use.

# Cine Synthesis

By

Wm. J. Grace

(Author's note: In the preparation of this and subsequent articles on 8 and 16mm work, it has been found practical and expedient to illustrate by pictures and descriptions actual devices and equipment developed by myself along these lines. It is hoped that my readers will accord the information found in these articles for what they are worth and that it will not be looked upon as subtle advertising for my own products.)

**S**YNTHESIS means the building up, piece by piece, of component parts into a whole. Cine synthesis means building up a motion picture frame by frame instead of at the normal speed at which movies are usually taken. Since frame by frame work encompasses so large a field the general principles upon which single frame movies are made will be discussed and then various aspects of the art will be taken up one by one.

When an amateur thinks of single frame work, the first thing which pops into his head is animated cartoon work. Immediately, he visualizes great quantities of special equipment which he feels are beyond him financially. Fortunately, however, single frame work is no more out of the reach of the amateur than any other type of movie work.

He must bear in mind that he must learn to crawl and walk before he attempts to run. Until he learns the principles underlying single frame work, the amateur will do well to undertake only the simplest form of the work, namely, the animated title.

Animation, you know, means merely to apparently imbue an inanimate object with life. If a movie title is animated, the words and letters may be made to move about on the screen as if they were living beings—oddly shaped bugs trained to spell titles.

Since this article concerns itself solely with 8 and 16mm amateur work, we will assume that the projection speed of 16 frames per second is to be observed. Also, in this and other articles on amateur cine work, we are going to base all our calculations on frames per second and total number of frames. This is to eliminate any confusion which is bound to arise in speaking of feet of 8mm film and feet of 16mm film. The frame and second are universal yardsticks for cine measurement, regardless of film width or picture size.

In determining the proper timing for animated movies, the amateur will do well to emulate the effects used by the professional. We are taught from childhood to study the writings of the experienced—does it not follow that from the experience of those who earn their living making animated movies the amateur can learn much? The amateur who really wants to learn the secrets of animation timing has at hand some very good examples of almost every effect he might want to employ in the work seen on the screen of any theatre.

Since it is difficult and impractical to read a watch in a darkened theatre, an easy way to tell time or count seconds is to say slowly and distinctly beneath your breath—"one hundred and one, one hundred and two, one hundred and three—". It is really surprising how closely seconds may be mentally ticked off by this scheme. Try it with your watch before you.

Perhaps at some time you have seen on the professional screen a title which started out with the letters all jumbled up, stamped out about on the screen for two seconds, and then marched into positions which spelled the title. We'll assume you want to use this on the picture of the World's Fair you made last Summer.

Set up the camera on a vertical support and, after determining proper focus and exposure, lay all the letters appearing in *THE WORLD'S FAIR* on the title area. You might use small cardboard or metal letters, or you might buy a package of alphabet soup characters. (They come in packages containing at least 10,000 letters for a dime!)—any letter which can be moved around. Use wooden letters if you wish. Paint the letters to contrast with the paper background of the title, or select a paper or photograph background which contrasts with the letters.

Now, determine how long the title is to run. A good plan is to allow the letters to "jumble" for about two seconds—a longer period may bore the audience and a shorter one may confuse them. Allow another second for the letters to assume their position to spell the title, then allow two seconds more for the completed title to remain on the screen to be read. This timing is merely a suggestion. Perhaps you might want to slow it up or make it in a faster tempo—your own experience will dictate your own timing.

Our timing requires that the letters jumble about haphazardly for two seconds. This means 2 times 16, or 32 frames must be exposed. Expose one frame at a time, moving each of the letters a little at a time between each exposure, do not try to move them too far at one time or

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# Have You A Watchmaker In Your Home ?

By

J. Dickinson Reed

ONE of the basic comedy situations is that in which innocence outrages dignity. Things of this sort happen with disturbing regularity in every home where there are children: at the time, they don't always seem funny, but afterward, when ruffled tempers have calmed, such incidents usually become cherished memories, the foundation of cycles of anecdotes about the cute ways in Our Baby.

So, why not make a home-movie of such an occurrence? For instance, the time when Junior tried to fix Daddy's watch. Of course, putting a valuable watch in such a perilous situation would call for too great a devotion to *cinéma* Art—but a dollar Ingenoli will do just as well, without straining the budget. It is the only "prop" necessary for making this little photoplay, which can be staged in any

home, with things that are to be found in every household. Here it is:

## THE WATCHMAKER

### Cast of Characters

Junior Hairn't voted yet—but what a mechanic!  
Father Slings a wicked wrench  
Rover Specialist in second-hand bones

Scene 1 FADE IN Long-shot of car, outside the family garage. The hood is raised, and from underneath the car, a pair of feet stick out.

Scene 2 Close shot of the feet.  
Scene 3 Under the car (Use a reflector!) Father is seen busily at work, repairing the car. As he unscrews a bolt, the wrench slips, and his wrist strikes the crank-case. He stops, feels of his wrist, then decides that his wrist-watch will be safer if he takes it off. He starts to remove it.

Scene 4 Close shot of running-board of car. Father's hand comes out from underneath, groping around, and finally deposits the wrist-watch on the running-board. FADE OUT.

Scene 5 FADE IN Medium long-shot of the back door. Junior comes out, followed by Rover. Junior has two doughnuts in his hands; he gives one to the dog, and wanders along, munching his doughnut.

Scene 6 Long-shot of back porch, showing driveway. Junior enters, followed by Rover. He stops a minute by his tricycle, but it doesn't interest him; he wanders on, in an aimless zig-zag, coming toward the camera. He is plainly bored.

Scene 7 Under the car. Father is still working. (The angle for this is the reverse of Scene 3—i.e., shoot from Father's head.) On the other side of the car, we see Junior's feet approach, and stop.

Scene 8 Close shot of Junior—shot through the car. He surveys the array of tools, etc., on the running-board. He begins to show a little interest. Have his head turn from camera left to right.

Scene 9 Close-up of the running-board. It is covered with a litter of tools, parts, etc. Pan from right to left; stop with the watch centered.

Scene 10 Close-up of Junior. A Big-head shot. He sees the watch, and is very much interested.

Scene 11 Close-up of the watch. Make this short—about three feet.

Scene 12 Close-up of Junior, as Scene 10. He makes up his mind to do something.

Scene 13 Close-up of the watch, Junior's hand comes in and picks it up.

Scene 14 Long-shot. Junior, carrying the watch, walks away from the car.

Scene 15 Close shot of Junior, sitting in the grass, examining the watch. He looks at it—holds it to his ear—shakes it—and listens again. He looks down, camera left, and speaks:

TITLE "SOMETHING'S WRONG, ROVER. LET'S FIX IT!"

Scene 16 Close-up of Rover, he barks once.  
Scene 17 Long shot. Junior runs over to the car, selects a hammer and a chisel and runs back. This can be a pan shot with the camera following Junior.

Scene 18 Close shot. Junior places the watch on a large stone, and tries to open it with the chisel. Rover sits beside, watching intently.

Scene 19 Close-up of Junior. He is intent on his work—his face is all screwed up, his tongue between his teeth, etc.

Scene 20 Close-up of Rover. He is intently watching Junior's work. Make these two scenes very short.

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# WHEELS OF INDUSTRY

## Victor Sound Library

• The announcement of Victor Animatograph Corporation, Davenport, Iowa, that the well-known ERPI Education Films, including those made at the University of Chicago, are being released in 16mm Sound-on-Film will undoubtedly prove of interest to visual-minded educators for the reason that the availability of 16mm Sound Films such as these will have a decided influence on the rapidity with which the transition from silent to sound projection will be effected in the educational field.

The production of the 16mm sound-on-film prints of these films is being handled by the recently established Film Division of the Victor Animatograph Corporation at 242 West 55th Street, New York City. Prints will be offered for outright purchase by Victor, and it is understood that a number of sources such as Visual Instruction Departments of State Universities will offer rental service.

## New Leica Lens

• According to announcement from E. Leitz, Inc., the long promised 50mm Summar F2 lens in collapsible mount for Leica camera is now ready. This lens is said to embody several outstanding characteristics, among which might be mentioned its color correction and crispness, even at its widest aperture. It is claimed this lens does not suffer from aberrations which are usually associated with spotted lenses, among which softness at large apertures is a disturbing factor.

## Madison Mart Opens

• Under the firm name of Madison Mart, Inc., P. A. Lutz, E. F. G. Herr and Wm. A. Kunze, formerly with Herbert & Huggan Company, have opened the Madison Mart at 403 Madison Avenue, New York City, for the purpose of dealing in Cine and still photography equipment.

## New Amateur Lights

• According to an announcement from Wm. J. Grace of Dallas, Texas, he is marketing a new light unit which will accommodate from three to four lights. A fine feature of this unit is the fact that he has also designed a switch which will give either dim or bright lights. This means a great saving in both current and photo-flood bulbs as the dim switch can

be thrown over while the lights are being lined up and the bulbs may be burned at their highest efficiency only during the actual photographing process. Another fine feature is the "sprinkle" which is available with this outfit. This concentrates the light more within the photographic range. It is a feature which the professional studio has used regularly.

## Horizon Sunshade

• So built as to fit on either still camera or 16mm camera, Harrison and Harrison of Hollywood announce a new sunshade to take either 1 1/4 or 1 1/2 in. filters.

This sunshade fastens by means of a bent rod, as seen in the illustration, to



the filter holder and then to the camera fastening in the tripod-screwhole. The bolt with which this is fastened is drilled so that it will take the regular tripod-head bolt. It is adjustable both sideways and forward and backward.

## New Rental Library

• The Visual Instruction Supply Corporation is a new entrant into the Film Rental Library field. The corporation announces the institution of a National 16mm Film Rental Service created especially to serve the school and church field.

This service is available anywhere in the United States and Canada. Address all inquiries regarding this service to Visual Instruction Supply Corporation, 1757 Broadway, Brooklyn, New York.

## New 16mm Film

• An announcement that is of exceptional interest to the dealer as well as to the

16mm user is the one put out this month by Agfa Ansco of their 16mm Plerachrome Fine-grain film. This will sell for \$4.50 for 100 ft and \$2.75 for 50 ft. This new film will have the popular Plerachrome emulsion which has been used successfully by this firm on their still film negatives for so long. The Agfa Ansco Company claim extremely fine grain and more than usual latitude for this film. While it is not panchromatic, it is sensitive to all colors except spectral red. It is fully orthochromatic. They claim it is more brilliant than Panchromatic and they state in their announcement that it has the Agfa annihilation coating. Its speed in daylight is approximately that of regular Reversible Panchromatic.

## Chicago Victor Office

• The Victor Animatograph Corporation is opening an office at 188 W. Randolph St., Chicago, under the management of Don B. Oliver. This office will act as a display for all Victor equipment and will have projection for silent and sound pictures. A service man from the factory will also be installed in this office to assist Oliver.

## 16mm Sound Library

• Among the first to announce a 16mm Sound on Film Library is Willoughby in their recent circular which lists six Geniuses, five Aesop Fables, six Travelogs, ten Musicals, three Music Classics and four Miscellaneous subjects.

According to the announcement these subjects will rent for \$1.50 a reel, with each reel approximately 400 ft. in length.

## S & H 16mm Titles

• For those 16mm film users who haven't the time or inclination to make their own titles, Bell & Howell is introducing what is styled "Title Craft" service.

The pictorial titles, if of ten words or less, are 75c each, plus 4c for each word over ten. Titles on plain or on the textured backgrounds shown in the book are 45c, if of ten words or less, plus 4c for each word over ten. The quoted prices include filming, developing, and delivery to the customer of the finished title film strips ready to splice into his films. Main titles in suitably varied type sizes are supplied at no extra charge.



# BACKYARD MOVIES

## "Diary of 1934"

So often we amateur movie enthusiasts discover rather suddenly a dearth of ideas as well as an actual shortage of cash for the ever-important item of film. It is a very simple matter, however, to cure both of these ills. The obvious answer to the shortage of money is to budget it, allowing yourself a definite amount to buy film throughout the year, but if this is to work out successfully, you should budget your ideas, too. It seems to me that the beginner can do nothing better than to plan his year in advance, with the idea in mind that at the end of twelve months he will have four hundred feet of film representing the highlights of the year—a vivid diary of the most important happenings. Like most diaries, it should prove of interest to all who are privileged to view it.

Moreover, a film diary is a marvelous way of utilizing "orphan film"—all those disconnected shots of people and places every movie-maker accumulates during the course of a year. Strung together in more or less chronological order, with clever titles, such otherwise wasted film can easily be made into a most interesting reel, excellently suggesting **WHAT** you did, **WHERE** you did it, and **WHO** you met during the year. Try it on those stray shots you have left over from last year's shooting! It is sure to work out so successfully that you'll want to try making a definitely planned film diary of this year's events. Here's how to do it.

Think of the pattern of the whole year—how it affects you personally—and plan your film accordingly. There are certain definite activities and events that stand out: certain fairly fixed holidays, vacations, etc.; then there are certain equally definite family celebrations—birthdays, wedding anniversaries, and so on; then there are special, unforeseen (but important) events—visits from old friends, schoolmates and the like, and, lastly, there are definite "new events," both family and local—weddings, graduations, family reunions, fires, floods, wrecks and visits from prominent people. All of them stand out in your memory (some, of course, more than others)—and so they should by all means be represented in your film diary.

## Movie Film Free

One Wade of Los Angeles gives us a practical idea for the use of the 8mm or 16mm camera. Here is an idea that everyone will find practical—especially for those shots that were taken at random. Wade, of course, gets the roll of Panchromatic film. Read his suggestions over—see how simple it is, but how practical. Then try your hand at winning a roll of film free. Send your suggestions to the Editor.

The first event might center around New Year's Day, and how you began the year. Next there will probably be an outing some fine Spring week-end—and don't forget that the ladies always like to show off their new Easter bonnets! Often you'll have an interesting outing around the Fourth of July or Memorial Day. Film it! For your summer vacation, you may go camping, or make a motor-tour; or perhaps you'll spend the vacation at the beach or in the mountains. In the Fall, the men of the family are likely to go hunting—and the camera should go with them. Halloween and Thanksgiving are both, as a rule, observed with some celebrations—especially if there are children in the home, and both offer interesting film material. And of course Christmas Day (or perhaps New Year's Eve) will end your reel. In between these subjects, you can naturally put all of the intimate, personal events that don't fall under any arbitrary classification.

The "news" subjects—unexpected visits from old friends, weddings, graduations, or outstanding local events, can either be cut into the reel in their chronological order or grouped at the end of the reel in their chronological order, or grouped at the end of the reel. It might not be a bad idea, also, to have at the end of the reel about fifty feet of close-ups of your best friends—something like the "personalities in the news" section of newsreels. These, of course, can be made at any time during the year.

So much for the ideas!

Now for the film! As a rule, it will only be necessary to get one roll of Super-sensitive Pan—this for the interludes on Christmas and New Year's Eve. For the rest, you can get very good results on the cheaper grades of film—even Ortho and the cheap "Semichromatic" types, provided, of course, that

the daylight is always good. If you allow about \$18 for the 400 ft., your budget will only have to call for an expenditure of \$1.50 per month for film. Often, 50-ft. rolls will be more satisfactory than 100 ft. lengths, as you can get your pictures developed sooner, avoiding any possibility of film left in the camera deteriorating.

The titles need only be of the simplest "date-and-place" sort—brief and to the point, a means of identification in later years. Titles introducing groups, however, should list the names of everyone shown, lest some be forgotten later on. Most of these titles can be made on short ends of film left on the roll after you have finished your scheduled scenes.

The idea just outlined is a film diary in its simplest form. It can be expanded to almost any degree you may find advisable, but bear in mind always the fact that it will be more interesting if there are perhaps fewer subjects, each of which is well planned and well photographed than if there are more subjects, but haphazardly planned and poorly photographed. Such an idea can naturally be expanded to include much more than the suggested 400 ft., but it is not advisable to attempt to make it shorter, as it would become too sketchy. To get the best results from the idea, with the minimum expenditure, study the technique of the newsreel, plan and photograph each subject with the idea of making each shot tell as much as possible—getting the "meat" of the subject quickly, then passing on to the next. To expand, you can either show more details of each subject, or cover more subjects—including things which are interesting, but not, perhaps, of the absolutely highest importance, such as current events not so directly connected with your own activities. Always, however, remember that the essential interest of any diary is the personal element—its retelling of what happened to the diary's author and his intimate circle.

If you wish, too, you can add titles more intricate than the simple ones suggested. Double-exposure, with a calendar background, for the main title, hands tearing off calendar-leaves for the titles introducing the various events. Titles that wipe or fade on and off—you can easily imagine dozens of such ideas which, while they may take more footage, and be harder to make, will nevertheless add to the effect of the picture.

Continued on Page 516

# Multiple Exposures—Without Rewinding—For Amateur Cameras

It is not very hard for a professional cinematographer to suggest all sorts of practical camera-tricks to the amateur—if he will exercise his memory. After all, most of today's professionals can remember the days when the best of professional cameras were less adaptable than are today's amateur cameras—even the simplest film ones. It is really surprising how much can be done with a modern amateur movie camera, without any added trouble or expense.

Knowing that all home-movie makers have at least a secret hankering to make their films different from those of their fellow cineastes, we herewith suggest a pair of simple tricks which can be made with any amateur movie camera. Like a stage "magician's" act, "it's done with mirrors!"

Trick No. 1 is explained by sketch No. 1. It gives an interesting triple-exposure effect—without the necessity of rewinding, or matching mattes. Place two mirrors at the exact angles indicated by the sketch, placing them on a solid table. Frame your picture according to the outline indicated by the dotted-line. Use whatever action you wish—and there you are! Yes—that's all there is to it! But it doesn't look so simple on the screen.

Trick No. 2 is explained by the other sketch. It's just as simple—and even more effective. Another triple-exposure effect that can be made at one "take." Your actor can sit down and play a game of bridge with himself, for he will be plainly visible in the picture three times, and from three different angles. This trick is especially well-adapted to use

in a plot of some kind. And still there's no rewinding. You simply place two mirrors at the angles indicated, place the subject with his back to the camera, and his hands on the table, and shoot. Your camera must be held behind a black screen or curtain, with only a tiny hole cut through for the lens—and you'll get the best results if you are careful not to let any stray light strike the mirrors directly.

Yet another trick, which may be done with the same two mirrors, multiplies a single man into a whole row—a single soldier into a regiment. Place the subject between two parallel mirrors, and shoot past the nearer one, so you get an actual side-view of the man, his reflection from the first mirror, and the re-reflection of his image in the second. If the angles are right, you can get the effect of a long line of identical people, though, of course, the details of costume are alternately reversed.

Try these simple stunts—and see how many questions your fellow enthusiasts ask you when you screen the pictures!

## Making Your Own Reels

• A suggestion comes to us from J. R. Nason of Illinois of how to make your own 400 ft. 16mm reels.

The idea came to him as an emergency expedient. He cut from an old 400 ft. film can the cover and bottom, leaving enough metal so as to flange it over to avoid rough edge. Then he took one flange off of a 100 ft. reel such as comes to you with the return of your film from the laboratory. He cut a round hole bigger than the one in the original 100 ft. reel. Then he cut small holes where the flanges come through from the hub. He then cold soldered the 100 ft. flange on this big flange made from the can and placed it back on the hub. He used a knife, he tells us, to cut these holes in the aluminum. Trying to chisel this out makes the metal bend.

He also says he cut a wedge over the threading slit so as to make threading easy. He suggests that a lot of holes be bored in the metal if it is to be used permanently so as to permit the moisture from the humidifier can to reach the film.

His final suggestion is the use of cardboard instead of the metal cans for purely permanent 400 ft. reels.

## Effects With Projector

• Lester Johnson of Maywood, Illinois, felt his pictures would have been improved in many cases if he had as much firelight as he had hindsight after viewing his efforts.

An idea struck him one day. Why not matt off some of the objectionable



SKETCH NO. 1

stuff in the projector! The first thing he tried this on was a horse race. He made a matt to fit over the aperture of the projector right in back of the lens. He made this first one in the shape of a binocular and the effect was that you were viewing the race through field glasses. When he pulled this matt out while the projector was running it gave the effect of a wipe-off.

So he experimented further with key-holes, diamond shapes and other shapes that the picture, scene or occasion called for.

Johnson says it works fine. He does not give details of the slide he constructed for his gate. Possibly it would be best to experiment by just holding one of these matts up to the gate before making any alterations.

## Filter Holder For 8 or 16mm

Again Raymond Harvey comes forth with a gadget that is not only simple but practical. It's a filter holder that can be adapted to the 8mm and to some of the 16mm lenses.

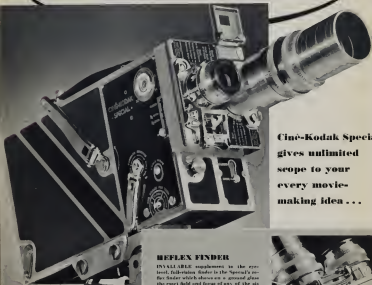
The basis of this holder is the type of strainer you buy at the 5 and 10 cent store for the kitchen faucet. If you will take your lens with you you may possibly find one of these strainers that will fit exactly. However, if it doesn't it is a simple matter to shim up with tape or cardboard to make it fit the circumference of the lens.

You then secure some of the thin water glasses used with microscopes. These will cost about 25c a dozen. You take the screen out of the strainer. Secure some gelatine filters cut to the size of the water glass—place a glass on each side of the filter, place in the strainer, replace the washer and your filter holder is ready.

If you want to build a sunshade on this holder, you can pick up one of the black composition drinking cups in the 5 and 10 cent store. Cut a hole in it the size of your faucet strainer, using a pocket knife. Solder it on with liquid solder and you now have the filter holder shaded.



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## The A-B-C of Outdoor Lighting

(Continued from Page 50)

Have one of them farther away than the other, so you won't get an absolutely flat light, but—just as in a well-lit interior—one side will be a little less brightly lighted than the other. Don't have your reflectors either too close, or too shiny, lest you get too hard a light. And watch your exposure! There is usually more danger of overexposure than of underexposure. And be sure to have a good, deep sunshade on your lens, and to see that the direct rays of the sun don't strike the glass elements of the lens. If all of this is carefully done, you'll have a very beautiful light effect.

Figure 2 shows a cross-lighting. Place the subject so that the direct sunlight comes either from the right or the left, so that the sun strikes hard on one side. Then place a reflector on the opposite side, to throw a beam back into the shadow-side of the face. This is good in itself, but you can improve it with a second reflector. Place this as far behind the subject as is possible (and be sure it is out of the picture!). Catch the sunlight, and throw it onto the hair of the subject from behind—from the back of the head. Thus you will have a cross-light and backlight combined—a very nearly ideal outdoor lighting.

Suppose, however, that you are working in some deep shade—say on a porch, or in the shadow of a building. Reflectors will stand you in good stead here, too, in the form of what we call "pick-up" light. Reflectors—used either singly or in a series—will bring in sunlight to exactly where you want it. Simply catch the sun with your reflector, and play with it, throwing the beam here and there until it goes where you want it—exactly as a little boy plays with a mirror. Even one reflector will help in many cases; and, if necessary, you can follow professional practice, and throw the sunlight from one reflector to another, until it puts a spot of light where it is most needed. Fig. 3 will give you a good idea of how to do this.

Once you get accustomed to using reflectors, you will find that it is surprisingly easy to handle them accurately—and, like most professional cinematographers, you'll find that they will so greatly improve your work that it is hard to get on without them.

Here is another hint for exterior scenes. Often a long-shot looks very bare and empty, with nothing in the foreground, or nothing to "frame" the composition. Shots made through a branch with leaves or flowers are always attractive—so if there isn't any such branch actually available in your set-up, why not get one, and use it anyway? Carry a small branch with you, and then have somebody hold it in front of the camera while you shoot through or un-

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der it. You'll get the same result as though the branch grew there!

Similarly, if you are forced to pose your subject against a brightly-lit wall, you can call on your little branch again, have it held or placed in such a way that the sun casts its shadow upon the wall—and your composition becomes much more pleasing.

It is simply through attention to such little details as these that professional cinematography has become so consistently pleasing—has become truly artistic. Do the same thing yourself; you'll be surprised how easy it is to improve your pictures, making the result more artistic—and incidentally awakening the envy of your co-amateurs!

## Nature Photography With Cine-Kodak

(Continued from Page 504)

(with slight modifications) for making films, as well.

The question of magnification should be made clear. Ten inches is regarded as the conventional viewing distance at which magnification is unity. If we view an object at two inches, by the use of a magnifying lens, of course, the magnification is 10/2 or X5, and the lens meant for the purpose is designated as an X5 magnifier. Likewise, a one-inch viewing distance gives a magnification of X10. If the Cine-Kodak is fitted with a one-inch supplementary lens, the overall angular magnification is X10, even though the image on the film is the same size as the object. The usual 25mm Cine-Kodak lens (112.5mm for 8mm camera) is assumed in this discussion.

As already mentioned, the Cine-Kodak lens is not designed to focus on objects closer than two feet. The supplementary lens is not only the simplest method of focusing for shorter distances, but it also has a decided advantage, since the indicated 'F' aperture of the camera lens is still valid, even for very short distances. Thus, the same aperture setting is used for the photography of small objects as for distant objects, and Kodachrome photography is quite practical, provided the supplementary lens is large enough to avoid cutting off the marginal rays.

When the camera is focused for infinity, the focal length of the supplementary lens required is equal to the distance of the supplementary lens from the object to be photographed. This is independent of the focal length of the camera lens. The supplementary lens may be regarded as creating a virtual image of the object at infinity, for which the camera lens is focused. For object distances down to 8 inches, simple spectacle lenses of the Bausch & Lomb "Calex" double-convex type have proved satisfactory, even with Cine-Kodak lens-apertures of 1/19. The theoretically preferable type is the plano-convex, with the plane side facing the object. For

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## WESTON *Exposure Meters*



subject distances shorter than 8 inches a camera lens of the required focal length should be used as a supplementary lens, and should be mounted with its back facing the object. Either cine or still-camera lenses of any focal length may be used, anastigmats are, of course, preferable.

The details of construction for such a frame are clearly shown in the illustration. Wooden construction is simpler, and quite satisfactory. The proper supplementary lens can be mounted easily with cellulose cement in the wooden upright, using a stepped circular hole made by an expansion bit. This lens -

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If you intend to enter this contest please send copy on this page so that we might send you official entry blank.

Please send me one of your official entry blanks. I intend to enter a 16mm. Seven 9 1/2mm picture in your 1934 contest. I understand my entry must be in your office not later than October 31, 1934.

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mounted close to the camera lens, and so that its center is on the camera lens axis. A decentering error of 1/16 inch is not objectionable. The wire frame is not placed exactly at the plane of sharp focus because it has been found impossible to surround all objects with the frame. It is therefore set 1 1/4 inches closer to the camera. Experience has shown that the estimation of the field position and limits offers no difficulty with this arrangement.

The frame is made of wire, 1/8 inch in diameter, and exceeds the field limit by about 1/4 inch on all sides. The frame is bent so that its geometrical center is on the camera lens axis. If one side of the frame appears in preliminary pictures, the frame may be shifted or bent as required.

In order to attach the camera to the device, a hole is drilled in the wooden base permitting a 1/8 inch machine screw to engage with the tripod bushing on the camera. This hole is so placed that the camera rests against two wooden guide blocks, to assure replacing it exactly. The blocks are placed as shown to permit easy winding and loading.

If desired, the supplementary lens mount may be hinged at the base, to be swung out of the way for distant photography, with which the frame does not interfere.

The fourth class of subject in nature photography—things examined through a magnifying glass—can be photographed by means of a similar device, using, as mentioned above, camera lenses of 25mm or greater focus for supplementary lenses. The construction of this attachment is beyond most amateurs, but the required mounting may be easily made by any machinist. Especially when using cameras equipped with the f1.9 Kodak Anastigmat lenses, the mount for the supplementary lens may be made in the form of a filter-cell, and the device fitted to the lens exactly the same way as the standard filters are fitted. The wire frame, of spring steel wire, is adjusted so that the image of a distant object, created by the supplementary lens alone, falls in the plane of the frame. A final adjustment is made with the attachment on the camera, photographing a pin in and near the plane of the frame, and adjusting the frame according to the result. Care must be taken to keep the subject in the frame, since the depth of focus is quite small.

## Backyard Movies

(Continued on Page 511)

and give you added pleasure in the making.

But remember, such a film should not be so much a display of film-technique of any sort as it should be a human document. This is where the genius (if any) of the photographer steps in!

OTIS WADE

Los Angeles, Calif



## Color and the Miniature Camera

(Continued from Page 505)

oes, slightly larger duplicates could be made by projection.

The next successful color process for the miniature camera to be considered is the "two color" or DuPak process. By this process, transparencies or color prints can be made in any desired quantities. This process is also known as the Ives Polychrome Process. It is very satisfactory, not complicated, and yields surprisingly good results. It may be termed a "two color" process with "three color" results. There are two ways of making the "two color" separation negatives. The first way is by the successive exposure method. Two exposures are made successively, one through the red "A" filter and other through the green "B" filter of the standard "A-B-C" in-color filter set. Such exposures are quite practical on subjects where there is no expected movement or light changes. Panchromatic film must be used.

The second method is by using DuPont DuPak film. This method permits the making of snapshots. The speed of the DuPont film is equivalent to that of DuPont Ortho film. By this bipack method, two films are loaded into the camera at the same time. They are placed emulsion to emulsion. The front film has an ortho emulsion with a red filter coating on top of it (this filter coating is removed after development). The back film, in the bipack, is panchromatic. These two films are naturally exposed simultaneously, thus giving "two color" separation negatives.

Color prints are made by making cyan-blue toned bromide prints from the red filtered negative (the back negative of the bipack). Upon these bromide prints and in proper register is cemented a dichroic red-to-yellow positive film made from the green filtered negative (front negative of the bipack). The combination of the print and film give the desired colors. In a somewhat similar manner, transparencies may be made, a blue toned film replacing the blue toned bromide print. Transparencies may also be made on Bellcolor Two Color Print Film. This is a greatly simplified means of making "two color" transparencies. Technicolor (reduction of the cartoon process) and Multicolor are "two color" processes.

Another process that is adaptable to the miniature camera is the "three color" separation process. These color separation negatives are made by photographing the subject through the standard "A-B-C" in-color filter set. It is obvious that the successive exposures made with these filters, must be of still objects or otherwise a color fringe will result. While this process is the ideal means of securing natural color photographs, the novice in color photography is not advised to try this process until he



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has some experience with the less complicated principle similar to 16mm Kodachrome. Theplex color processes. Perhaps, the easiest method of employing the "three color" process is to make transparencies from the separation negatives on Tricolor Bellcolor Film. Prints and transparencies may also be made by Tricolor Carbio-Three Color Trichrome, Dyebox Color Process, and by the Piratype Process.

Recently, in England, the Agfa Company in conjunction with the Leica organization announced a new color process. So far, it is strictly a projection

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process, employing a lenticulated film advantage of the large Leica frame over the 16mm frame in a process like this one is apparent.

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### J. NAVILIO

Broadway & Chambers St., Brooklyn, N. Y.

ters are used for taking and projecting the film. A specially mounted 119 Hektor lens is used for both photographing and projecting. With the color filter in place, the 119 lens has an equivalent speed of an f-6.3 lens on superpan film. Pictures may be projected up to 3 or 4 feet. It will be a little while before this process will be available in this country.

Also, from England, comes information of the new Gasparcolour process. This process is based upon new color principles; as many as 40 British patents having been granted to it. It is of a revolutionary nature in that color prints are made as easily as are black and white prints. This process has not made its appearance upon the market as yet. When it does, it is hoped that it will bear out the enthusiastic claims of those who have seen prints made by this process.

Without a doubt great strides will be made in color photography within the next few years. You may well expect that these new developments will be applicable to the lucrative, miniature camera field.

For those who wish more comprehensive information on the processes described in this article, you may refer to the following sources:

FILMCOLOR, The R. J. Fitzsimons Corp., 75 Fifth Ave., New York City  
DUPONT DUPAC and the IVES POLYCHROME PROCESS, DuPont Film Mfg. Corp., 35 West 45th St., New York City  
The Camera Magazine, Philadelphia, Jan. '33 issue and subsequent issues, Wm. H. Deer, 2253 N. Franklin Ave., Philadelphia, Penn.

TRICOLOR CARBRO THREE COLOR TRICROME, DYEBRO, T.W.O. and THREE COLOR BELCOLOR PRINT FILM,

George Murphy, 57 East 9th St., New York City

PINATYPE PROCESS, H. A. Metz and Co., 122 Hudson St., New York City  
GASPARCOLOUR PROCESS, The British Journal of Photography, Aug. 4, Oct. 6, Nov. 3, 1933

## Have You a Watchmaker in Your Home?

(Continued on Page 509)

Scene 21 Medium-shot. Having no luck with the chest, Junior sets it down and tries the hammer.

Scene 22 Close-up of Junior (big-head). He registers intense enjoyment.

Scene 23 Close-up of watch, with hammer beating down upon it. If you wish, you can make this more effective by making a series of short flashes—about six inches per flash—of this action, taken from different angles.

Scene 24 Close shot of watch. After a hammer-stroke, the back cover flies off, and a spring etc., shoot out.

Scene 25 Medium close shot of Junior. He starts back in surprise, and topples over.

Scene 26 Close-up of Rover, barking excitedly.

Scene 27 Long-shot. Pan camera from Junior over to Father and the car.

Scene 28 Close shot of car. Father crawls out, covered with grease, but satisfied. He walks over to a hydrant and washes the grease from his hands.

Scene 29 Medium long-shot. Father returns to the car, rolling down his sleeves. His face is still dirty, but he smiles contentedly.

Scene 30 Close shot, beside car. Father walks into the picture and reaches down for his watch—it isn't there, surprised, he hunts for it.

Scene 31 Close-up of Rover—still barking.

Scene 32 Close-up of Father. He hears, and it dawns on him that there may be some connection with the missing watch.

Scene 33 Medium long-shot of Junior. His back is to the camera, and the hammer in his right hand rises and falls regularly.

Scene 34 Close shot of Father. He starts to run toward Junior, coming straight into the camera.

Scene 35 Over Junior's shoulder; close shot of the wrecked watch. Suddenly Father's hand shoots down and snatches the watch.

Scene 36 Close shot (head and shoulders) of Father, holding the watch up, and speaking—angrily and fluently.

TITLE ZQ00K22220%0110Q111000011211

Run this for about six inches, and then slide over it a card bearing—in big letters

C E N S O R E D

Scene 37 Medium-shot of Junior and Rover. Junior looks frightened, puts his

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P.  
C.  
S.

P.  
C.  
S.

hands over his ears, and tries to skip away quickly.

Scene 38 Long-shot Father is in the foreground, holding his watch and still talking. In the background, Junior and Rover huddle away around the corner of the garage. Junior still has his hands over his ears.

FADE OUT

THE END

## Cine Synthesis

Continued from Page 535

the screen results will be jerky. When you have made 32 frames of the letters "jumbled," take 16 exposures of the letters as they move toward the positions they will assume in spelling the title. After the letters spell the title, flick the camera button 32 exposures more and the title is made.

A word now about flicking the camera button to make single exposures. Most amateur cameras are spring-driven, with a lever or button to allow the mechanism to function when depressed. On some cameras the spring which holds the release button in the non-operating position is rather stiff, in others the action is not quite so strong. It will be found that the stronger the spring on this release lever the more difficult it is to flick the release lever quickly enough to allow the camera to expose only one frame because of the phenomena of muscular reaction. For this reason, I would advise you to make for yourself, or purchase ready-made, an electrical solenoid device to operate the camera release lever. Then, an electrical pushbutton having a very soft spring can be touched and released very quickly by the operator's finger.

Some amateur cameras are equipped with an auxiliary button which allows the camera to expose one frame at a time automatically. I have known of some amateurs who own a camera of this type to use the electrical control in preference to the single frame button on the camera—perhaps because the pushbutton could be placed at a more convenient point. At any rate, bear in mind that for the best results, make your animated movies with some system which you may depend upon to expose just one frame at a time.

The titling frame or rack which an amateur selects for making animated titles or other animated movies is perhaps best made in such a manner that the title board is in a horizontal plane. Especially is this design convenient if the amateur plans to make animated cartoons. The size of the title area should be large enough so that fine line work is not necessary and yet not so large that the

As we have suggested, the only important "prop" you will need for this picture is the watch—a dollar watch. For the last few scenes, the more completely wrecked it is, the better the effect. The tools, etc., can be found in every home, and you can improvise the "gears" called for in Scene 9 from the junk that accumulates around any garage. If necessary, the titles can be eliminated, but the film will naturally be better if you use them.

materials become expensive. A title area of about 7 by 9½ inches should be about right. On the surface carrying the title itself some method should be devised for definitely locating the title with respect to the camera. Then, by using a sketch board having similar locating facilities, perfect registration will result.

By all means make the titling frame of strong substantial materials and design it heavy. A flimsy frame will allow the relation between title and camera to change during the filming, and the screen result of the animated movie will be irritatingly jerky.

In building your animating titles allow provisions for accurately adjusting the distance between the camera and the title. While most amateur cine lenses will not focus more closely than 24 inches, this provision will undoubtedly prove convenient and laughed in the event that at some time in the future the amateur will decide to equip his lenses with spacing drums so that closer work can be filmed. The titling shown in the picture accompanying this article can be calibrated for almost every amateur cine camera and the same frame used for any or all such cameras. Incidentally, moving camera shots of titles or cartoons are quickly and simply made by moving the camera up or down definite intervals while making the single frame exposures.

Titles or cartoons may be drawn on paper or some transparent material. While a bit more expensive initially transparent materials for this purpose are to be preferred. Perhaps the least expensive material is 0.005 inch thick, and the safest is made of cellulose acetate the same material which is the base of amateur safety film. Cellulose nitrate is more inflammable, and for the sake of safety, I would not advise its use. Acetate stock is only slightly more expensive than nitrate base stock, so why take chances.

The acetate base sheet will be found to lend itself admirably to the making of titles as well as cartoons because they may be washed clean of the ink and used repeatedly—a water-dampened rag

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1 in. F/2.5 U.F. Filmo	11.00	12.50
1 1/2 in. F/1.5 Filmo	85.00	32.50
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will remove all traces of drawing ink or showcard colors. If difficulty is experienced in applying the ink or showcard color to the sheet, it is probably because of grease on the sheet, a cloth or bit of cotton saturated with ordinary rubbing alcohol will remove this grease. The title may be drawn or printed with a brush or Speedball pen; if you use a pen make sure that the point has no burrs or sharp corners to scratch the acetate sheet?

As to the film which the amateur may use for making titles or animated movies, 8mm enthusiasts at the present time have only regular panchromatic reversal. In the 16mm field, four different types of film are available, each of which will be found to have its own niche. If only occasional titles are made, they may be made on the unused ends of regular panchromatic or superpan reversal with which the camera may be loaded. If the amateur has a number of titles and wants to have them screen black where his title is drawn black, and vice versa, the less expensive orthochromatic reversal films on the market are quite good. At slightly less cost than this, if the amateur does

not mind the making of titles reverse in color rendition to that desired on the screen, he may make his titles on positive stock and develop it himself. This film will perhaps give blacker blacks than any other, if such a condition is desired. And finally, Kodachrome may be used to make colored titles and animations.

In this article it has been the object of the writer to describe methods and apparatus for the making of titles and animation. In the next article, CINE-TRICKS, unusual effects obtainable in animation and titles will be discussed, as well as one trick which may be made in the field.

In closing, it has occurred to the writer that dimensioned drawings of the titles shown and described here would be desirable to my readers. With this in mind, a quantity of prints have been made of a drawing I have prepared, showing the construction and assembly details of the titles. The sheet, 22 by 34 inches, is available at cost. Merely send fifty cents for the plan and it will be sent immediately. Address either the American Cinematographer or myself.

## Show It With Music!

(Continued from Page 301)

more than corresponding domestic ones. They are, however, well worth the extra cost and trouble, for they add variety, and help one to avoid the more hackneyed selections usually available.

It would be almost impossible to give, in the limited space here available, a complete list of recorded music suitable for scoring home movies, but a brief outline of the more important thematic classifications, and appropriate selections, follows.

### Battles, Riots, Excitement—

- "Ruy Blas Overture" (Mendelssohn)
- "Ride of the Valkyries" (Wagner)
- "Flying Dutchman Overture" (Wagner)

### Ballet—

- (Also adaptable to much general action of a light nature)
- "Dance of the Hours" (Ponchielli)
- "Faust Ballet Music" (Gounod)
- "Ballet Music from 'Hamlet'" (Thomas)

- Fantasy from "Coppelia Ballet" (Debussy)
- "A La Gavotte" and "A La Menuet" (Herman Finck)

### Carnivals, Joy, Etc.—

- "Carnival Overture" (Dvorak)
- "Bark Holiday" from the "Cockney Suite" (Kietelbey)

### Death Scenes—

- "Largo," from the "New World Symphony" (Dvorak)
- "Chanson Triste" (Tchaikowsky)

- "Death of Ase" from "Peer Gynt Suite, No. 1" (Grieg)

### Dramatic Scenes—

- "Les Preludes" ("Symphonic Poem No. 3") (Liszt)
- Fantasies from "La Traviata" (Ward)

### Fairs, Games, Etc.—

- "Fire Music from Siegfried" (Wagner)

### Love Scenes—

- These scenes require music which is predominantly in the string section of the orchestra; or violin or cello solos.
- "Simple Awe" (Thomas)
- "A Little Love, A Little Kiss" (Rossini)

### Sleazy—

- "Coeur Brise" (Gillet)
- "Londonderry Air" (Traditional Irish)
- "Serenade" (Toselli)
- "Zigeunerweisen" (Sib-Seraset)
- "Gott Hab' Ich die Frauen Gekost" (Lohr)

### Oriental, Eastern, Etc.—

- When bona-fide Eastern music is not wanted, but when some definitely atmospheric music is needed:
- "In A Chinese Temple Garden" (Kietelbey)
- "In A Persian Market" (Kietelbey)
- "In the Mystic Land of Egypt" (Kietelbey)

- "Japanese Sunset" (Deppen)
- "Chinese Lullaby" (Bowers)
- "Japanese Lantern Dance" (Yoshimoto)
- "Indian Love Lyrics" (Woodford-Finden)

# HERE'S HOW

by A. S. C. Members

**FILTERS IN FOG.** "What is the most suitable filter for shooting in a fairly thick mist or fog, but with the sun fairly bright at the same time? If there were no fog at all, about f-8 with SuperPan film at sound speed would be correct exposure. Has any allowance to be made for the fog, or should only the filter-factor be taken into account?"

R.C.R., Calcutta, India.

In a heavy fog, no filter will be of any appreciable benefit. If the fog is light, you may derive some benefit by using either an Aero 2 or a "G" filter (preferably the latter) as they have pronounced haze-cutting qualities. When photographing through a fog, the usual rule of exposure applies—"Expose for the shadows, and the highlights will take care of themselves." In this instance, expose for whatever details you can see and wish to show, if you are using a filter, you must naturally allow for the filter-factor. Often, by the way, a light fog will prove deceptive, offering more obstruction to the eye than to lens and film.—Ned Van Buren, A.S.C.

**TANK DEVELOPER.** "I require a good tank developing formula, such as is used in the studios, taking about 15 minutes to develop at about 65 degrees F."

R.C.R., Calcutta, India.

The most universally-approved negative developer for Motion Picture use is the Eastman "D-76" formula, which we give here in amounts suitable for 1 gallon, and for studio tanks of 120 gallons or more.

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Elix	120 grains	2 lbs
Sod Sulphite	1 1/4 oz	100 lbs
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Borax	120 grains	2 lbs
Water to	1 gal	120 gals

Average development time for motion picture type negatives on Panchromatic or SuperPan films 9 minutes at 65 degrees F. At half strength the same contrast would be obtained in about 15 minutes at the same temperature. We would advise you to experiment, so that you may determine the right dilution and developing-time to produce exactly the type of negative you wish. Used full strength, for instance, with development carried to 15 minutes would give you a negative of much greater density and contrast than is general among the Hollywood studios. Differences in the water-supply also have some noticeable

bearing upon the action of the solution.—Emery Huie, A.S.C.

## MISSING SCENES IN 8mm ROLLS.

"In several of the more recent rolls of 8mm film that I have shot, I have found that several scenes—usually at the beginning, middle, and end of the roll—were missing. How does this happen?"—M.M.M., Boston.

In all probability, you have photographed these scenes on the opaque film leader supplied for threading your camera. The Eastman Kodak people inform us that at each end of each roll of 8mm film, about 4 feet of leader is spliced. This is generally fogged in the loading, so it is removed before developing the roll. We suggest, therefore, that if you will run off two or three feet of film each time you thread your camera (that is, when starting a roll, and after reversing the spools midway through the roll) you will avoid any loss such as you suggest.—Arthur C. Miller, A.S.C.

## CHARIOTS AND SHOOTING.

"How was the chariot-race film made in 'Roman Scandals' with Eddie Cantor as the 'quid'?" And how are the very realistic scenes made which apparently represent the shooting through the glass of enclosed automobiles—generally without even feigned injury to the occupants? If you will answer these queries, you will place an appreciative subscriber under further obligations."—P.W.A.F., Detroit.

A few of the close shots of Eddie Cantor driving the chariot were made direct, with the camera—fitted with a telephoto lens—mounted on a camera car which kept pace with the chariot. The majority of scenes, however, were made by the trick method variously called the "Transparency" or "Projected Background" process. In this, a film representing any desired background is projected (fines behind) upon a large translucent screen placed behind the actor. The projector and camera are electrically synchronized, so that the two shutters open and close together and the projected background picture is photographed as an actual moving background to the real action in the foreground. In this particular instance the background was a film showing the road as it would be seen if one was looking straight back from the chariot, with the other chariot approaching from behind. Mr. Cantor was then placed in front of the process-screen, in a chariot, and went

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## Here's How

through his action, dialog, etc., as the background was projected on the screen behind him. The result—as you saw—showed Eddie driving madly along in his chariot, with the other chariot creeping up in the distance. The result was perfectly effective, and much easier to make—and less costly—than would have been possible otherwise.

As to the shooting—non-shattering glass is, of course, used. Sometimes, the bullet-holes are made by planting small changes in the glass, and firing them electrically, through very fine, black wires. But in most cases, these holes are made by REAL bullets, actually fired through the glass by special snaphooters. There are several men here in Hollywood who make their living as gunnery experts—some of them specialize in trick revolver-shots, some are rifle-marksmen, and two or three machine-gun specialists—all of whom can be absolutely depended on to place a bullet exactly where

the director wants it, without the slightest danger to anyone on the set. Most of these marksmen are war veterans. A few of the old Western stars, such as Tom Mix, were able to do such fancy shooting themselves.

—John W. Boyle, ASC

## New Manual on Home Movies

Movie Making Made Easy," by William J. Shannon, has just been published by Moorfield and Shannon, of Nutley, N. J. It is an excellent, though condensed, review of the elements of home-movie making. Its chief fault lies in the fact that the author has tried to appeal to both the beginner and the more advanced worker in a single short volume. In consequence, he has to cover a great deal of material in a relatively short space, which forces him to condense everything, and to slight several important details. His discussion of filters and filtering, for example, is so con-

demned as to be misleading to the novice, and much too elementary for the advanced worker. However, there are several chapters of real value—especially those on the organization of clubs and club-productions, the making of titles and trailers, animated cartooning, aerial and animated cinematography, and the concluding chapter of helpful hints.

## Show It With Music!

"Egyptian Suite—African Mooves" (Benno Bardt).

Nature—Rustic Scenes; Scenic Films—

"Summer Days Suite" (Cochet).

"Peer Gynt Suite—Morning" (Grieg).

"Frühlingstraumchen" (Sinding).

"Shepherd's Hey" (Grainger).

"Siegfried—Forest Mumsen" (Wagner).

"Three Fairchild Etchings" (Ketelbey).

"In Fairy Realm" (Ketelbey).

"In A Camp of the Ancient Britons" (Ketelbey).

"Swallows of Austria" (J. Strauss).

"Tales from the Vienna Woods" (J. Strauss).

This list can be extended indefinitely, and include virtually every type of music.

**Professions—**

"Aida—Grand March" (Verdi).

"Merchant of Venice—Doge's March" (Rossi).

"Cockney Suite: State Procession" (Ketelbey).

**Religious—Church Scenes, Etc.—**

"Ave Maria" (Bach-Gounod).

"In A Monastery Garden" (Ketelbey).

**Scenes—**

"Flying Dutchman Overture" (Wagner).

"The Storm" (Pattman).

**Tragic Scenes—**

"Cockney Suite—Elegy" (Ketelbey).

"New World Symphony" (Dvořák).

**Weird, Mysterious—**

"Fantastic Symphony" (Berlioz).

Naturally, many intermediate classifica-

tions not mentioned here permit the

use of many other types of music; comed-

ies can often be used with up-to-date

dance music, news subjects with military

marches, while travel-films and home-

movies allow the use of many beautiful

and interesting compositions covering a

wide range of moods. The starting point

for anyone interested in building up a

home scoring library is obviously to elim-

inate all classifications except those cov-

ering his own immediate range of films,

thereafter adding records as his films may

require. It should also be remembered

that a wide variety of recorded sound-

effects are available—shots, sirens, air-

planes, doors closing, etc.

Before showing a picture with music,

a cue-sheet should be prepared, showing

what music to use for each scene, when

to change records, etc. If properly re-

hearsed and performed, such music can

vastly improve the effect of home show-

ings of any type of picture.



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